

UC3M Ticket to Open Science 2024

Destination : *Open Science* **Operated by :** Skills4eosc

Passenger : *PhD Student*

Date : Wednesdays **Frequent Flyer**

Boarding time : 12:00

Landing time : 14:00

Gate : Moodle (Bb Collaborate)

Bronze Silver Gold Platinum Platinum Singular

● Open Data ● Open Access ● Collaborative Science ● Replicability ● Rewards & Incentives

Catering on Board:
Open Science Café

UC3m
TICKET TO
OPEN SCIENCE

* This flight operates from 13 March to 22 May 2024

Information about the course

Course coordinator/facilitator: [Prof. Dra. Eva Méndez](#). Library and Information Science Department. Director of [OpenScienceLab](#).

Website: <https://www.curatore.es/uc3m2OpenScience/>

Target Audience: PhD students @UC3M

Number of Students: 45

Course format: Online synchronous

Teaching platform: The course will be managed through AG-uc3m. But all the materials will be also openly available, following Skills4EOSC quality standards.

Number of hours: 30 hours total. Aprox. 2-3 hours a week (10 weeks)

Dates and schedule: Every **Wednesday** from March 13

13, 20 March; 3, 10, 17, 24 April. 8, 15, 22 May

- From 12:00 to 14.00 – Regular course sessions
- From 15:00 to 16:00 – Open Science Café (check course Schedule)

Credits: 3 ECTS

Cost of the course: **FREE**

Language: English

Evaluation:

To get 3 ECTS, all the students need to attend, at least, 80% of the sessions and actively participate during the class (practices and assignments) and in the Open Science Cafés (questions, chat, etc.). Finally, every student has to write a final “open” post about their learning in the course.

During the course students might obtain micro credentials, based on modules/units’ completeness. They are 5 levels of micro-credentials:

Open Science-Bronze → Registered to the course, invited to be part of the community

Open Science-Silver → Completed modules 1-2-3

Open Science-Gold → Completed modules (1-2-3) + 4-5-6

Open Science-Platinum → Completed modules (1-2-3-4-5-6) + 7-8-9

Open Science-Platinum Singular → Completed modules 1-2-3-4-5-6-7-8-9- + final post + disciplinary meeting (MODULE 10)

This training activity is organised by [OpenScienceLab @UC3M](#) as one of the training activities of the EU funded project [Skills4EOSC](#), with the collaboration of UC3M-Open Science Unit ([UniOS](#))

Objectives and learning outcomes

This course aims to cover the broad spectrum of the “[Minimum Viable Skillset](#)” for Open Science for Early Career Researchers and PhD candidates at UC3M, ensuring participants acquire both theoretical knowledge and practical skills throughout the course. The specific objectives and learning outcomes are:

- Understanding Open Science (OS) Fundamentals. Gain a comprehensive understanding of Open Science concepts, policies and challenges.
- Developing a personal Open Science Strategy for your research during your PhD and beyond, covering aspects like thesis, publications, data sharing, reproducibility... and overall research approach.
- Hands-on experience with Open Science Tools. Familiarize participants with practical tools and resources for OS, encouraging collaborative research.
- Understanding the importance and various aspects of Open Access publishing, including different routes, versions of papers, and the role of repositories.
- Understanding and applying FAIR data principles, create Data Management Plans (DMP) and explore data repositories.
- Learning strategies for improving reproducibility in research, understand the concept of pre-registration, and apply them in practical exercises.
- Exploring the principles, types, and platforms of Citizen Science, and engage in practical activities related to citizen science projects.
- Grasp the ethical, legal and social issues (ELSI) of Open Science, including IPR, copyrights, privacy, and responsible research practices.
- Understanding the need for reform in Research Assessment, analysing the main current initiatives (CoARA) and learn to create narrative CV.
- Learning and using the support provided by UC3M through the Unit for Open Science (UniOS).
- Create an Open Science community at UC3M.

Content and activities

MODULE 1: 13 March 2024

12:00 to 14:00: **Ethos and Introduction to Open Science**

- Introduction about the course. Learning outcomes and evaluation.
- You & Open Science: a new paradigm for your research (icebreaking).
- What is Open Science (Open Science, Open Knowledge, Open Research, Open Scholarship).
- Why Open Science and How to make it happen. Benefits of Open Science for researchers and society.
- Open Science components and Challenges.
- Current Researchers *35 times Open*: The European Competence Framework for Researchers ([CFR](#). 2022).
- Evolution and current policies for Open Science (declarations, initiatives and the rules of the game):

- Main actions, documents and policies in Europe and world-wide (UNESCO Recommendation) to promote and implement Open Science.
- Open Science in the Spanish Research Landscape (Spanish Legislation on Science and Universities, Doctoral rules and practices RD 99/2011, Spanish Strategy on Open Science (ENCA2023).

Assignment /practice 1: a) Discussion: Let's play True or False: Open Science misconceptions. -- b) Complete the Survey: What do you want to know about Open Science?

Speaker: **Eva Méndez**. Open Science Lab. Universidad Carlos III de Madrid. Skills4EOSC WP Leader.

MODULE 2: 20 March 2024

12:00 to 14:00: **Planning your responsible research in the Open. Resources and tools**

- How to become an Open Responsible Scientist.
- Including Open Science Practices in the whole research Cycle.
- Open Science Tools and collaborative research. (101Tools-Utrecht and DOST ([Digital Open Science Tools](#)): Reference management and discovery tools; Tools for analysis; Collaborative writing platforms; other tools to produce content; Annotation and review tools; Tools for your research outreach.
- Planning YOUR STRATEGY to Open Science: You, Your thesis, Your publications, Your data (sharing), your other research outcomes... your attitude!!
- EDI: Equity, Diversity and Inclusion principles and standards
- Initiatives and resources for Early Career Researchers and PhD candidates to practice Open Science:
 - Learning resources: Open Science Passport, Open Science MOOC, etc.
 - Communities: MC association, EURODOC, RDA, etc.
 - Open Science @uc3m: you are part of our journey. Building OS Communities. Slack channel.

Assignment /practice 2: Building up the ECR-PhD UC3M Open Science Community. Register to the Community Slack channel + OS UC3M listserv and start you interaction.

Speakers: **Eva Méndez** and **Pablo Sánchez Núñez**. Open Science Lab. Dpto. Library and Information Sciences. Universidad Carlos III de Madrid.

OS Café 1 (20/03/2024): 15:00 to 16:00: *Open Science: lessons and help from OpenAire.* [Giulia Malaguarnera](#). OpenAIRE Outreach and Engagement Officer. Ex-president of EURODOC.

MODULE 3: 3 April 2024

12:00 to 14:00: **Disseminating your research publications: Open Access publications**

- What is open access publishing?
- OA history and declarations: +20 years of OA
- Benefits and challenges of OA publishing.
- Open Access routes: gold, green, diamond, etc.

- PlanS & cOAlitionS, transformative agreements and current trends (Rights Retention Strategy (RRS)).
- Versions of your paper: version of the author (preprint/post print), VoR, etc. and how to know the right version to share (Sherpa/Romeo)
- Preprints and Open Peer Review
- Repositories: types and use.
- Social networks for scientists. Repositories vs. Social Scientific Networks (ex. ResearchGate)
- Predatory publishers/journals: How to identify them
- How to choose an Open Science Journal? criteria, resources and practical guidance

Assignment / practice 3: a) Plan the OA of all your publications: Chose the right OA route for your publications: Self-archive one of your current publications being aware of the policies in Sherpa/Romeo, or other local websites (e. g. Dulcinea in Spain). b) Students should watch this film/documentary: <https://paywallthemovie.com>. Remember to talk about this experience in your final post).

Speaker: **Gema Bueno de la Fuente**. Open Science Lab-UC3M. Universidad de Zaragoza.

OS Café 2 (03/04/2024): 15:00 to 16:00 *Open Science in the new ERA (European Research Area) and Horizon Europe*. [Javier López Albacete](#). Policy Officer. Open Science and Research Infrastructures. DG Research & Innovation. EU Commission.

MODULE 4: 10 April 2024

12:00 to 14:00: **Disseminating your research data: Open and FAIR data**

- What is Open Data, Open Research Data and FAIR data.
- Types of row data (qualitative and quantitative).
- FAIR data principles: Findable, Accessible, Interoperable and Reusable.
- CARE principles (Collective benefit, Authority to Control, Responsibility and Ethics).
- Metadata and PIDs.
- Data Management Plans (DMP) and outcome management plans.
- How to create a DMP: Tools and standards.
- Regulation around data/open data, further than research data: GDPR, EU directive on Open Data (1024/2019)
- The principle “*as open as possible, as closed as necessary*”.
- Licensing FAIR data for Reuse (see. ELSI session)
- Current Data repositories and EOSC. Search for RD repositories (re3data). Tools (OSF), and other infrastructures.

Assignment / practice 4: Plan the openness and FAIRness of your data: Make a DMP for your thesis. You can use any of the tools provided in this session. You might create your DMP during the whole course, upload it in AG or share it openly available as part of the content of your final post in the course Blog.

Speaker: **Sara Martínez Cardama**. Open Science Lab. Dpto. Library and Information Sciences. Universidad Carlos III de Madrid.

OS Café 3 (10/04/2024): 15:00 to 16:00. *Create your Data Management Plan and make your data FAIR.* [Joy Davidson](#). Associate Director. Digital Curation Centre. FAIRImpact EU funded project.

MODULE 5: 17 April 2024

12:00 to 14:00: **How UC3M will help you to be an Open Scientist: UniOS & Library support.**

- Authorship and affiliation
- Persistent Identifier for researchers: ORCID uses at UC3M
- Your thesis step by step: a library guide to help you with your thesis
- How to publish in Open Access your thesis and your publications:
 - o The Institutional Repository e-Archivo.
 - o Your thesis in Open Access (embargoes and exceptions)
- Open Science and the dissemination of research outcomes. Regional Research Portal: InvestigaM (*Consortio Madroño*):
 - o How to create a data management plan for your thesis
 - o Regional Repository: e-Ciencia
 - o Data Management and Regional Data Repository: e-CienciaDatos: a place for your thesis's data
- Blog I+B: Investigación y Biblioteca (R+L: Research and Library)
- Where we are and how to make it happen:
 - o Open Science support (UniOS)
 - o Full Open Science Pilot (FOS).

Assignment / practice 5: The students will learn how the uc3m's infrastructures will help them in different phases of their thesis, and also how to finally publish their thesis (e-Archivo) and their data (e-CienciaDatos).

Speaker: **Raúl Aguilera**. Head Librarian at Universidad Carlos III de Madrid.

OS Café 4 (24/04/2024): 15:00 to 16:00: *Open Innovation and Entrepreneurship.* [Marco Masia](#). Head of Entrepreneurship. University of Vienna.

MODULE 6: 24 April 2024

12:00-14:00: **Pre-registration and Reproducibility**

- Reusability, Replication, and Reproducibility (RRR)
 - o The role of reproducibility in Scientific research. Reproducibility crisis and National Reproducibility Networks.
 - o Challenges in reproducibility: publication bias, QRP (Questionable Research, Practices, etc.)
 - o Strategies and best practices on improving reproducibility.
 - o Create a reproducible data analysis using knitr.
 - o Tools for improving reproducibility: RMarkdown, Jupyter notebook, etc.
- Concept of preregistration and disciplines that practice pre-registration

- Design a pre-registered study.
- Pre-registration platforms and templates: Aspredicted, OSF, etc.

Assignment / practice 6: a) Hands-on exercise in data management and analyses for successful reproducible research. b) Hands-on pre-registration or registration of an individual research.

Speakers:

Pablo Sánchez Núñez. Open Science Lab. Dpto. Library and Information Sciences. Universidad Carlos III de Madrid.

Iñaki Ucar Marqués. Open Science Lab. Director of the Master in Computational Social Science.

MODULE 7: 8 May 2024

12:00-14:00: **Ethical, Legal and Social Issues (ELSI) of Open Science**

- IPR (Intellectual Property Rights) and Open Science
 - Copyright exceptions: Rights Retention Strategy, Secondary copyright
 - Types of open licenses.
 - Choosing a license for your Research Objects: publications, software, data.
 - Legal issues in research data management: [DMLawTool \(ccdigitalaw.ch\)](https://dmlawtool.ch) “as open as possible, as closed as necessary”
 - Privacy and Personal data (GDPR and other Regulations). Risks, anonymization and Data Protection Impact Assessment (DPIA).
- Ethics in Open Science:
 - RRI: Responsible Research and Innovation and Research Ethics (producing science responsibly)
 - Research Integrity (producing science correctly). Codes of Conduct.
 - Best practices in Open Research

Assignment / practice 7: a) Each student will choose licenses for their current or pretending Research Objects (RO). b) [Play Dilemma Game](#) (online/app): The Dilemma Game confronts researchers with difficult dilemmas in the context of a critical dialogue, supporting them in further developing their own 'moral compass'.

Speaker: [Luca Schirru](#). Centre for IT & IP Law. KU Leuven. Skills4EOSC coordinator of ELSI cross-domain work.

OS Café 5 (08/05/2024): 15:00 to 16:00: *Navigating the intersection of IPR and Open Science.* [Dr. Javier de la Cueva](#). Lawyer and Researcher. Author of <https://openscience-ipr.eu>

MODULE 8: 15 May 2024

12:00-14:00: **Citizen Science and public engagement**

- What is citizen science. History and evolution of CS.
- Citizen Science and public engagement: difference and confluence.
- Citizen science principles (10) and characteristics.
- Types of citizen science projects.

- CS platforms and communities ([CitizenScience toolkit](#), [SciStarter](#), national CS platforms and communities).
- Create your own project of CS.
- CS in educational settings: Open Educational Resources and citizen science
- Other approaches to citizen science: CERI (Community Engagement Responsible Research and Innovation), YUFE approach to CS within YUFERING project.
- Citizen Science successful use cases at UC3M:
 - o LADA-UC3M: citizen science in urban archaeology research. **Jesús Bermejo**. Humanities: History, Geography and Art Department
 - o Mental Health research and citizen science. **Anxo Sánchez**. Complex Systems Interdisciplinary Group (GISC). Mathematics Department.

Assignment / practice 8: a) Quiz about what is and what is not citizen science. b) Each student should find and analyze a CS project of his/her discipline and/or related with her/his dissertation.

Speaker: **Eva Méndez**. Open Science Lab. Universidad Carlos III de Madrid. Skills4EOSC WP Leader.

OS Café 6 (24/04/2024): 15:00 to 16:00: *Citizen Science. Endless possibilities for a Healthier and sustainable society.* [Fermín Serrano](#). IberCivis foundation. Spanish observatory for Citizen Science.

MODULE 9: 22 May 2024

12:00-14:00: **RRA Responsible Research Assessment: Towards a reform of the Research Evaluation**

- Traditional Research Assessment methods and practices: the biggest barrier for Open Science.
- Principles of Responsible Research Assessment (RRA).
- Benefits of Implementing RRA in Research Evaluation.
- Challenges to Reforming Research Assessment.
- Current movements and initiatives to Reform Research Assessment world-wide: DORA Declaration, Leiden Manifesto, The Metric Tide, CoARA, etc.
- CoARA: an opportunity to change research evaluation.
- CoARA Working Groups and National Chapters.
- Case Studies of Successful Implementation of RRA.
- Tools and Resources for Implementing RRA: Next Generation Metrics and CAM (Career Assessment Matrix). Open bibliographic data (open metadata).
- EMCR and Research Assessment.

Assignment / practice 9: a) Create your narrative CV and upload it in AG assignment. You might include it as part of your final open post in the course Blog.

Speakers:

Eva Méndez. Open Science Lab. Universidad Carlos III de Madrid. Skills4EOSC WP Leader. CoARA Steering Board Member

Sebastian Dahle. President of Eurodoc. Co-chair of [Early-and-mid-Career Researchers \(EMCRs\) – Assessment and Research Culture](#)

OS Café 7 (22/05/2024): 15:00 to 16:00: *Responsible Research Assessment and Open infrastructures for research evaluation.* [Dr. Cameron Neylon](#). [COKI](#) (Curtin Open Knowledge Initiative). Professor of Research Communications. Curtin University, Perth, WA.

MODULE 10: Discipline-oriented Open Science, Book an appointment!!

Doctoral candidates will make groups by discipline/area (e. g. Social Sciences, Humanities, Engineering, Law, etc.) and contact the University Unit on Open Science ([UniOS](#)) to have a special session focusing on the OS issues in their discipline.

To organize yourselves by groups, you might use the Forum in AG or contact students from the same discipline/same interests through the **Slack Community Channel**.

Assignment / practice 10: All the students, aiming to complete the course and obtaining the 3ECTS must write, and openly share, a final post about the content of the course and his/her learning and performance during the course. All the posts have to be published in the website **before June, 5th**.

OS Café 8 (29/05/2024): 15:00 to 16:30: *CoARA: Coalition, Community and Opportunity to advance Research Assessment and Open Science.* Dr. Erzsébet Toth Czifra. [CoARA](#) Head of Programme and Eva Méndez. Universidad Carlos III de Madrid. Member of [CoARA Steering Board](#) and Member of [ANECA's](#) Committee for evaluation and monitoring